Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) ~~An apparatus for providing I/O access to an~~ networked optical storage ~~media~~ server configured to couple to a plurality of users across a network; ~~on at least one data storage device across a network,~~ and the ~~apparatus~~ networked optical storage server comprising:

- at least one optical storage media;

- a network module configured to couple to the network for packet based communications with ~~sending and receiving data packets~~ the plurality of users;

~~a first stage coupled to the network module for receiving the data packets to be written to the optical storage media; and~~

~~a second stage serially coupling the first stage to the at least one storage device, and the second stage for aggregating the received data packets corresponding with a plurality of files from the first stage and writing aggregated data corresponding thereto to the optical storage media on the at least one storage device.~~

- at least one memory coupled between the network module and the at least one optical storage media; and
- a processor coupled to the at least one volatile memory and configured to coalesce in the volatile memory multiple data packets received from the plurality of users into a single corresponding aggregate data packet and to write each aggregate data packet to the at least one optical storage media, thereby reducing a number of write operations required to write data to the at least one optical storage media.

2. (Currently Amended) The ~~apparatus~~ networked optical storage server of Claim 1, further comprising:

~~a processor coupled to the first stage, the second stage and the at least one storage device, and the processor generating data structures for the received data packets in a format selected for the optical storage media and with addresses corresponding with the location of the data packets in selected ones of the first stage, the second stage, and the optical storage media.~~

- the at least one volatile memory including:
  - a first memory for receiving data packets from the plurality of users;
  - a second memory; and
- the processor further configured to coalesce the received data packets from the first memory into the single corresponding aggregate data packet in the second memory; and to write each aggregate data packet in the second memory to the at least one optical storage media.

3. (Currently Amended) The ~~apparatus~~ networked optical storage server of Claim ~~2~~ 1, wherein ~~the data structures include~~ each aggregate data packet further comprises at least one of :

~~information control blocks (ICBs) each associated with a file and each containing a list of extents for the associated file and with selected ones of the extents corresponding with a coalescing of sequential packets from a selected file into a larger extent.~~

- data corresponding with a single file of data from a plurality of the network packets received from a corresponding one of the users; and
- data corresponding with multiple files of data from the plurality of network packets received from corresponding ones of the users.

4. (Currently Amended) ~~A method for providing I/O access to at least one data storage device across a network, and the method comprising the acts of:~~

~~coupling to the network for input and output of data;~~

~~coalescing data received from the network which corresponds with a selected file or data stream;~~

~~aggregating data from a plurality of selected files or files coalesced in said act of coalescing; and~~

~~storing said data aggregated in said act of aggregating.~~

The networked optical storage server of Claim 1, further comprising:

- a hard drive coupled to the processor; and
- the processor further responsive to a cache policy selection by an administrative one of the users to cache on the hard drive, a cached copy of a selected one of:
    - directories of corresponding file structures stored on the at least one optical storage media;
    - directories and data stored on the at least one optical storage media; and
    - an archived copy of data on the at least one optical storage media, accessible after removal of the at least one optical storage media from the server;

thereby decreasing an amount of time required to provide the corresponding cached copy to the plurality of users.

5. (Currently Amended) ~~An apparatus for providing I/O access to at least one data storage medium across a network, and the apparatus comprising:~~ A networked optical storage server configured to couple to a plurality of users across a network, and the optical storage server comprising:

- at least one optical storage media;

- a network module configured to couple to the network for ~~sending and receiving data packets~~ packet based communications with the plurality of users;

~~at least one data storage device coupled to said network module and the at least one data storage device for providing an input and an output of datum stored on the at least one data storage medium in directory and file structures;~~

a hard drive ~~coupled to said network module~~; and

a processor coupled to the ~~at least one data storage device and the~~ hard drive, and the processor responsive to a ~~boot up of the at least one data storage device to~~ cache policy selection by an administrative one of the users to cache on the hard drive, a selected cached ~~one of directory and file structures corresponding with the directory and file structures on the at least one data storage medium or the corresponding directory and file structures together with the corresponding datum.~~ copy of :

- directories of corresponding file structures stored on the at least one optical storage media;
- directories and data stored on the at least one optical storage media; and
- an archived copy of data on the at least one optical storage media, accessible after removal of the at least one optical storage media from the server;

thereby decreasing an amount of time required to provide the corresponding cached copy to the plurality of users.

6. (Currently Amended) A method ~~for providing I/O access across a network to at least one data storage medium with datum stored in directory and file structures~~ executed on an optical storage server configured to couple to a plurality of users across a network, ~~and the method~~ comprising the acts of:

- providing at least one optical storage media;
- coupling to the network for ~~sending and receiving data packets~~ packet based communications with the plurality of users;

~~caching during a boot phase of operation a selected cached one of directory and file structures corresponding with the directory and file structures on the at least one data storage medium or the corresponding directory and file structures together with the corresponding datum;~~

~~responding to an I/O access request to display the associated directory and file structures for the at least one data storage medium to display a cached copy of the directory and file structures; and~~

~~responding to an I/O access request to read datum corresponding with a file on the at least one data storage medium to read a cached copy of the datum when the selected cached one includes the corresponding datum.~~

- coalescing multiple data packets received from the plurality of users into a single corresponding aggregate data packets and
- writing each aggregate data packet coalesced in the coalescing act to the at least one optical storage media, thereby reducing a number of write operations required to write data to the at least one optical storage media.

7. (Currently Amended) The ~~apparatus~~ method of Claim ~~5~~ 6, ~~with the processor further responsive to a request to display the directory and file structures for the at least one data storage medium to display a cached copy of the directory and file structures from the hard drive.~~ wherein each single corresponding aggregate data packet coalesced in the coalescing act further comprises at least one of :

- data corresponding with a single file of data from a plurality of the network packets received from a corresponding one of the users; and
- data corresponding with multiple files of data from the plurality of network packets received from corresponding ones of the users.

8. (Currently Amended) The ~~apparatus~~ method of Claim ~~5~~ 6, ~~with the processor further responsive to a read I/O access request for a file on the at least one data storage medium to read the corresponding datum from the hard drive when the selected cached one includes the corresponding datum.~~ further comprising:

- providing a hard drive;
- selecting a cache policy for the caching of data on the hard drive; and
- caching on the hard drive, responsive to the selection of cache policy, a cache copy of a selected one of:
    - directories of corresponding file structures on the at least one optical storage media;
    - directories and data stored on the at least one optical storage media; and
    - an archived copy of data on the at least one optical storage media, accessible after removal of the at least one optical storage media from the server;

thereby decreasing an amount of time required to provide the corresponding cached copy to the plurality of users.

9. (Currently Amended) ~~The~~ A method ~~of Claim 4 further~~ executed on an optical storage server configured to couple to a plurality of users across a network , comprising the acts of:

~~generating data structures for the received data packets in a format selected for the optical storage media and with addresses corresponding with the location of the data packets in selected ones of the first stage, the second stage, and the optical storage media.~~

- providing at least one optical storage media;
- providing a hard drive;
- coupling to the network for packet based communications with the plurality of users;
- selecting a cache policy for the caching of data on the hard drive; and
- caching on the hard drive, responsive to the selection of cache policy, a cache copy of a selected one of:
    - directories of corresponding file structures on the at least one optical storage media;
    - directories and data stored on the at least one optical storage media; and
    - an archived copy of data on the at least one optical storage media, accessible after removal of the at least one optical storage media from the server;

thereby decreasing an amount of time required to provide the corresponding cached copy to the plurality of users.

10. (Canceled)